

Types of Data and Some Simple Graphical Displays

1) In your own words define the following terms:

- a. Variable
- b. Data
- c. Univariate Data
- d. Bivariate Data
- e. Multivariate Data
- f. Categorical Data
- g. Numerical Data
- h. Discrete Data
- i. Continuous Data
- j. Frequency
- k. Frequency Distribution
- l. Relative Frequency
- m. Bar Chart(graph)
- n. Dot Plot

2) What is the difference between qualitative and quantitative data?

3) How do you calculate the relative frequency of categorical data?

4) Look at example 1.5 College Choice Do-Over? Describe the type of data in the study. What is the sample and population?

5) Look at example 1.6 How Safe Are College Campuses? Describe the type of data in the study. What is the sample and population?

6) What is the difference between numerical and discrete data? Refer to example 1.7 Do U Txt? What type of data is used in the study? What is the sample and population?

7) Refer to example 1.8 Motorcycle Helmets—Can You See Those Ears? Describe the data set. What is the population and sample?

8) Consider the following test scores given to a statistics class of 39 students

100	60	90	98	61	68	50	97	55	50	77	93	99
64	64	56	52	86	50	71	65	99	51	92	81	60
100	86	65	62	98	97	52	55	85	100	82	65	54

- a) If grades are assigned 90-100 A, 80-89 B, 70-79 C, 60-69 D, 59 or below F, create a frequency table that includes grade, frequency, and relative frequency.
- b) Create a dot plot of the data.
- c) Create a bar graph of the data.

- 9) Box Office Mojo (www.boxofficemojo.com) tracks movie ticket sales. Ticket sales (in Millions of dollars) for each of the top 20 movies for 2007 are shown in the table below.

Movie	Sales
Spider-Man 3	336.5
Shrek the Third	322.7
Transformers	319.2
Pirates of the Caribbean: At World's End	309.4
Harry Potter and the Order of the Phoenix	292.0
I am Legend	256.4
The Bourne Ultimatum	227.5
National Treasure: Book of Secrets	220.0
Alvin and the Chipmunks	217.3
300	210.6
Ratatouille	206.4
The Simpson's Movie	183.1
Wild Hogs	168.3
Knocked Up	148.8
Juno	143.5
Rush Hour 3	140.1
Live Free or Die Hard	134.5
Fantastic Four: Rise of the Silver Surfer	131.9
American Gangster	130.2
Enchanted	127.8

- (a) Create a dotplot of the 2007 ticket sales. Describe any observations found from the dotplot.
- (b) Create a frequency table of the ticket sales using intervals 100.0-199.9, 200.0-299.9, and 300-399.9. Include both frequency and relative frequency in the table.
- (c) Create two bar graphs, one using frequency and the other using relative frequency.
- (d) Which of the displayed created in parts (a) - (c) is best to use and why?